

**ABSTRACT**

The object of the invention is to efficiently perform a vector operation using a vector register. A vector processor 5 is provided with a vector register forming a ring buffer, and any address of the ring buffer can be specified as the top address. Accordingly, when multiple vector data to be processed are overlapped, it is possible to circularly read or write the vector data stored in one vector register without 10 storing the vector data in separate vector registers. Thus, it is possible to prevent the same data from being redundantly read as well as to decrease register resources to be required, thereby enabling an efficient vector operation using a vector register.